Applicant gratefully acknowledges the allowance of Claims 18 and 24.

When considering the present invention it must be viewed from the perspective that a pulp mill used to perform a pulping process is made up of many separate and segregated plants, the chemicals and effluents from the separate plants are not and cannot be mixed since the reactions and desired actions/results are different, hence the reason for separate plants (such as the digesting plant, the brownstock plant, and the bleaching plant). Also, the waste filtrate from the digesting and brownstock plants go to a recovery boiler for burning of the dissolved organics while the bleach plant effluents are never mixed with the recovery feed liquor since the bleach plant effluents contain harmful pollutants and a very small percentage of organics which means that it will not burn (does not have caloric value sufficient to sustain a flame).

The present invention relates to improving the overall efficiencies of various aspects of a wood fiber pulping process by removing all or a portion of high molecular weight organic by-products from washing fluids to increase concentration gradients for mass transfer.

In one aspect the present invention is a method for improving the efficiency of a wood pulping processes incorporating dilution of pulp by removing high molecular weight by-products from a filtrate taken from any washing step of the process and using the treated filtrate in any dilution zone, pipe or equipment in the pulping process to dilute the pulp (claims 21, 25).

In another aspect the present invention is a method for improving the efficiency of wood pulping processes employing a multi-stage washing process wherein a washing fluid is separated from the wash fibers in one of a last stage or any stage except the first stage of the multi-stage washing process, the separated washing fluid being treated to remove high molecular weight organic by-products to produce a washing liquid having a reduced quantity of high molecular

weight organic by-products so that the cleaned or treated washing liquid can be used in any other stage of the multi-stage washing process (claims 22, 26).

In yet another aspect the present invention is the method for improving the efficiency of a wood pulping process using an oxygen delignification stage which is proceeded by and followed by washing of the pulp by separating washing fluid from the pulp after any one of the washing steps proceeding or any one of the washing steps following the oxygen delignification step and separating high molecular weight organic by-products from the washing fluid to produce a cleaned washing fluid with increased concentration gradients for mass transfer and using the cleaned washing fluid in any one of any washing operation or to dilute pulp prior to, after, or during oxygen delignification (claims 23, 27).

The Examiner has rejected claims 23 and 27 under 35 U.S.C. § 103(a) over Samuelson U.S. Patent 3,853,473. Contrary to the allegations of the Examiner, it is respectfully submitted that Samuelson et al. were concerned with the washing of pulp before and after an oxygen bleaching stage not an oxygen delignification stage. Bleaching happens after the pulp has been treated to separate the lignin to liberate the fibers which then can be bleached.

Samuelson et al. neither teach nor suggest subjecting the fluid to filtration to remove high molecular weight organic by-products from the washing fluid to thus produce a cleaned washing fluid with increased concentration gradients for mass transfer.

Samuelson et al. is bleach plant filtrate (polluted waste effluent) for reuse in the bleach plant. The modern day bleach plants have whitening O_2 bleaching stages thus the Examiner has erroneously made a bleaching stage equivalent to the brownstock O_2 delignification stage. Here again, the filtrates from the brownstock plant are not effluents since they are collected and

burned in the recovery boiler to obtain BTU's from the organic portion and recovery of the inorganic chemicals to regenerate active cooking chemicals (e.g. NaOH).

Applicant submits the Examiner is using his teaching to not only select, but to interpret the prior art which is clearly contrary to existing patent law. Applicant further submits that the rejection of claims 23 and 27 under 35 U.S.C. § 103(a) is not well taken and should be withdrawn.

The Examiner has rejected claims 21, 22, 25 and 26 under 35 U.S.C. §103(a) over Henricson et al. U.S. Patent 6,733,625 in view of Modell et al. U.S. Patent 5,470,481.

Henricson is using a method to treat brownstock plant filtrate with an oxidizer in an effort to reduce organic components in the filtrate. The treated filtrate is used because it "reduces chemical demand in processes subsequent to the brownstock washing process." The subsequent process is the bleach plant. Applicant's processes are drawn to treating filtrate with a filter medium (e.g. a membrane) to be used in the brownstock plant to enhance washing, not reduce chemical demand in the bleach plant.

Modell et al. deals with the bleach plant filtrate which is a waste effluent. The present invention does not involve treating any bleach plant filtrates (which are waste effluents since they can not be burned, or recycled in the recovery process). Modell et al. does mention membrane filtration and the like, but again on bleach plant effluent. It is submitted the Examiner continuously confuses bleach plant filtrate, which is pulp mill waste effluent, with the brownstock filtrates that are counter currently fed back in the brownstock line and eventually sent to the recovery boiler.

It is respectfully submitted the rejection of claims 21, 22, 25 and 26 is not well taken and should be withdrawn.

Applicant submits that the art is replete with various pulping processes that have existed for many years. However, the art is devoid of any teaching or suggestion of using filtrates of washing liquids to enhance the overall efficiency of a wood pulping process.

It is further submitted the Examiner has fallen into the trap of using Applicant's own teaching to not only select, but to interpret the references, which is clearly contrary to existing patent law.

In view of the foregoing argument, it is respectfully submitted that the application is in condition for allowance and a notice to that effect is earnestly solicited.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No.50-3841. If proper payment is not enclosed herewith, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 50-3841. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 50-3841.

Respectfully submitted,
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